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A4GALT Rabbit pAb

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Catalog # AP58685

Product Information

Primary Accession	Q9NPC4
Reactivity	Mouse
Predicted	Rat, Pig, Human, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	40499
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human A4GALT/CD77
Epitope Specificity	291-353/353
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Golgi apparatus membrane; Single-pass type II membrane protein (Probable).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Necessary for the biosynthesis of the Pk antigen of blood histogroup P. Catalyzes the transfer of galactose to lactosylceramide and galactosylceramide. Necessary for the synthesis of the receptor for bacterial verotoxins.Expression of CD77, also called Gb3, sensitizes a cell to verotoxins, causing cellular injury that can lead to disease. Therefore, the complex regulation of CD77 biosynthesis and the activity of the enzymes involved, such as CD77 synthase, can be studied by compared gene expression between toxin-sensitive and insensitive tissues and cell lines. The highest tissue expression of CD77 synthase occurs in the kidney, mesenteric lymph node, spleen, and brain. Burkitt leukemia cells express very high levels of CD77 as well as CD77 synthase, and are sensitive to verotoxin induced apoptosis. These megakaryoblasts then never mature, leading to the arrest of platelet generation in the bone marrow, which may cause thrombocytopenia, a symptom associated with various hemorrhagic conditions.

Additional Information

Gene ID	53947
Other Names	Lactosylceramide 4-alpha-galactosyltransferase, 2.4.1.228, Alpha-1, 4-N-acetylglucosaminyltransferase, Alpha-1, 4-galactosyltransferase, Alpha4Gal-T1, CD77 synthase, Globotriaosylceramide synthase, Gb3 synthase, P1/Pk synthase, UDP-galactose:beta-D-galactosyl-beta1-R 4-alpha-D-galactosyltransferase, A4GALT, A14GALT, A4GALT1
Dilution	Flow-Cyt=1ug/Test

Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	A4GALT
Synonyms	A14GALT, A4GALT1
Function	Glycosyltransferase involved in biosynthesis of P1, P(k) and the rare NOR antigens of P1PK histo-blood group system (PubMed:10747952, PubMed:10748143, PubMed:22965229, PubMed:26773500, PubMed:29572228, PubMed:33460651). Catalyzes the transfer of galactose from UDP-alpha-D-galactose in an alpha1,4 linkage to lactosylceramide/beta-D-galactosyl-(1->4)-beta-D-glucosyl-(11)-ceramide(d18:1(4E)) to produce globotriaosylceramide/globoside Gb3Cer (d18:1(4E)), also known as P(k) antigen or CD77 (PubMed:10748143, PubMed:10747952, PubMed:26773500, PubMed:29572228, PubMed:22965229). Globoside Gb3Cer/P(k)/CD77 is a root structure in biosynthesis pathway of neutral glycosphingolipids of the globo-series. Broadly expressed in cell membranes of immune cells and other tissues, Gb3Cer/P(k)/CD77 antigen may participate in mechanisms that regulate cell-cell interactions and cell differentiation. In germinal center B cells, Gb3Cer/CD77 interacts with CD19 to drive centroblast-to-centrocyte transition, B cell receptor complex assembly and T follicular helper cell differentiation. In epithelium, Gb3Cer regulates CDH1/E-cadherin- dependent cell-cell adhesion counteracting epithelial-to-mesenchymal transition (By similarity) (PubMed:29572228). Synthesizes P1 glycan epitope (alpha-D-Gal-(1->4)-beta-D-Gal-(1->4)-GlcNAc-R) by transferring a galactose moiety to paragloboside nLc4 or to complex-type N-glycans (PubMed:26773500, PubMed:29572228, PubMed:33460651). Generates the rare NOR1 and NOR2 antigens which carry a Gal(alpha1->4)GalNAc terminal moiety and are both derived from Gb4Cer precursor (PubMed:22965229, PubMed:26773500, PubMed:33460651). Also able to transfer galactose to galactosylceramide/beta-D-Gal-(11')-Cer (PubMed:10748143).
Cellular Location	Golgi apparatus membrane; Single- pass type II membrane protein
Tissue Location	Ubiquitous. Highly expressed in kidney, heart, spleen, liver, testis and placenta

Background

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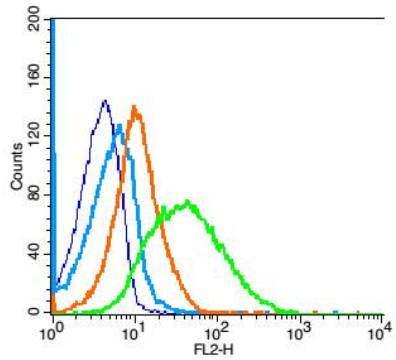
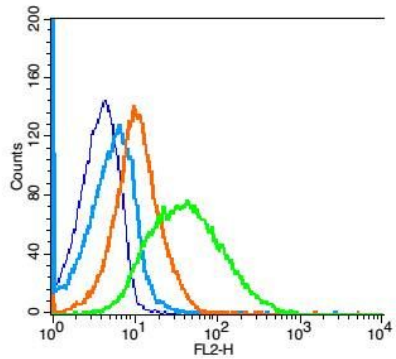
Images

Blank control(blue):mouse spleen cells (fixed with 2% paraformaldehyde (10 min), then permeabilized with 90% ice-cold methanol for 30 min on ice). Primary Antibody: Rabbit Anti- A4GALT antibody(AP58685), Dilution: 1 µg in 100 µL 1X PBS containing 0.5% BSA; Isotype Control Antibody: Rabbit IgG(orange) ,used under the same



conditions); Secondary Antibody: Goat anti-rabbit IgG-PE(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA.



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Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.